

WAGU, I.
Mathematical Reviews
Vol. 15 No. 2
Feb. 1954
Analysis

Basu, D. On a class of admissible estimators of the normal variance. *Sankhyā* 12, 57-62 (1952).

The estimators in question for quadratic weight function and fixed sample-size n are of the form $aS+b$ for certain values a, b , where S is the sample sum of squares about the population or sample mean, depending on whether or not the former is known. The methods are compared with Bayes solutions and a modification of Blyth's [ibid. *Math. Statistics* 22, 22-42 (1951); these Rev. 12, 622], proofs being rather sketchy in the latter case. J. Kiefer (Ithaca, N. Y.).

BASUKINSKIY, I.N., inzh.

Effect of the turning of the rotor on the results of measurements of gaps in the blading of a turbine. Izv.vys.ucheb. zav.; energ. 3 no.5:164-166 My '60. (MIRA 13:6)

1. Vsesoyuznyy teploekhnicheskiy institut.
(Steam turbines)

BASUKINSKIY, I.N., inzh.; TERNOGIN, A.G., inzh.; BEKKER, B.Ya., inzh.

Evaluation of the operational efficiency of turbo feed pumps.
Elek. stat. 35 no.1:19-24 Ja '64. (MIRA 17:6)

GHOSE, T. K.; BASU, S. K.

Bacterial sulfide production from sulfate enriched distillery liquor
I. Folia microbiol 6 no.5:335-341 '61.

1. Fermentation Laboratory, Food Technology Division, Jadavpur University, Calcutta 32, India

(SULFIDES)

BASU, S. L.; MONDAL, A.

The normal spermatogenetic cycle of the common Indian frog,
Rana tigrina Daud; *Folia biologica* 9 no.2:135-142 '61.

I. G. C. Bose Biological Research Unit, Bangabasi College, 19 Scott
Lane, Calcutta, India.

BASULLA, Hortensia

Varnishes based on nonsaturated polyester resins. Rev
chimie Min petr 15 no. 3: 133-138 Mr '64.

BASURMANOV, K.

Activity of leading organizations grows. Zhil.-kom. khoz. 11
no.8:31 Ag 61. (MIRA 14:9)

1. Predsedatel' Moskovskogo pravleniya Nauchno-tekhnicheskogo
obshchestva gorodskogo khozyaystva i avtomobil'nogo transporta.
(Municipal services)

42
BASURMANOV, K., inzh.

Make wider use of electronic computing techniques. Zhil.-komm. khoz. 13
no.2:15-16 '63. (MIRA 16:3)
(Electronic computers) (Municipal services)

BASURMANOV, K.A.

On the introduction of new technology in electric surface transportation systems. Gor.khoz.Mosk.29 no.9:9-13 S '55. (MIRA 8:12)

1. Glavnyy inzhener Tramvayno-trolleybusnogo upravleniya
(Moscow--Trolley buses)

BASURMANOV, K.A.

Efficiency experts in the municipal electric transport system of
Moscow. Zhil.-kom. khoz. 6 no.6:12-15 '56. (MLRA 9:12)

1. Glavnyy inzhener Tramwayno-trolleybusnogo upravleniya
Mosgorispolkoma.
(Moscow--Street railways) (Trolley buses)

BASURMANOV, K.A., inzhener.

Efficiency experts of the municipal electric carlines. Gor.khoz.Mosk.
30 no.3:29-30 Mr '56. (MIRA 9:7)
(Moscow--Street railways) (Moscow--Trolley buses)

BASURMANOV, K. A.

Eliminating ripple wear of electric railroad rails. Zhil.-kom. khoz.
7 no.1:13-15 '57. (MLRA 10:4)

1. Glavnyy inzhener Tramvayno-trolleybusnogo upravleniya Mosgor-
ispolkoma. (Street railways--Rails)

BASURMANOV, K., inzh.

Efficiency promoters of the electric transport system in the capital.
Zhil.-kom. khos. 8 no.3:15-18 '58. (MIRA 11:4)
(Moscow--Trolley buses)

BASURMANOV, K.A.

Decreasing the expenditure of labor at the enterprises of the
Streetcar and Trolley Bus Administration. Gor. khos. Mosk. 32
no.8:21-24 Ag '58. (MIRA 11:9)

1. Glavnyy inzhener Tramvayno-trolleybusnogo upravleniya
Mosgorispolkoma.

(Moscow--Streetcars--Maintenance and repair)

(Moscow--Trolley buses--Maintenance and repair)

13.15.1111111111111111
BASURMANOV, K.A. inzh.

Scientific and technical societies at the municipal economy enterprises. Gor. khoz. Mosk. 32 no.1:33-34 Ja '58. (MIRA 11:1)

1. Predsedatel' Moskovskogo pravleniya Nauchno-tekhnicheskogo obshchestva sanitarnoy tekhniki i gorodskogo khozyaystva.
(Moscow--Technical education)

8(0)

SOV/105-59-5-25/29

AUTHORS:

Basurmanov, K. A., Engineer, Galonen, Yu. M., Candidate of Technical Sciences, Yefremov, I. S., Professor, Doctor of Technical Sciences, Ivanov, I. T., Candidate of Technical Sciences

TITLE:

V. G. Sosyants

PERIODICAL: Elektrichestvo, 1959, Nr 5, p 92 (USSR)

ABSTRACT:

A short curriculum vitae on the occasion of his 70th birthday. Born on November 27, 1888 in Tiflis. Entered the Moskovskiy tramvay (Moscow Streetcar Service) in 1908, studied at the same time and finished his studies at the Polytechnic Institute in 1916. He worked in the Moscow Streetcar Service until 1930 where he finally became chief engineer. From 1931-37 he worked in the system of the Narodnyy komissariat kommunal'nogo khozyaystva RSFSR (People's Commissariat for Municipal Economy of the RSFSR) and in the Vsesoyuznyy sovet kommunal'nogo khozyaystva pri TsIK SSSR (All-Union Soviet of the Municipal Economy at the TsIK of the USSR). From 1937 he has been conducting the Sector of Municipal Transport at the Akademiya kommunal'nogo khozyaystva im. Pamfilova (Academy of Municipal Economy imeni Pamfilov). Besides, he is working as a pedagogue.

Card 1/3

V. G. Sosyants

SOV/105-59-5-25/29

He started his activity as a pedagogue in 1929 at the Institut narodnogo khozyaystva im. Plekhanova (Institute of Political Economy imeni Plekhanov) where he organized and gave lectures on municipal electric transportation. Later on he also worked at the Moskovskiy energeticheskiy institut (Moscow Power Engineering Institute) and other institutes. He published a number of scientific papers, text books, and manuals. In 1923 he organized the 1st All-Russian Streetcar Conference. He was a member of the Presidium of the Postoyannoye byuro vsesoyuznykh tramvaynykh s"yezdov (Permanent Office of the All-Union Streetcar Congresses), of the Vsesoyuznoye nauchnoye inzhenerno-tekhnicheskoye obshchestvo gorodskogo transporta (All-Union Scientific Technical Society of Municipal Transportation). Since 1954 he has been Deputy President of the Central Executive Committee of the Nauchno-tekhnicheskoye obshchestvo sanitarnoy tekhniki i gorodskogo khozyaystva (Scientific-technical Society of Sanitary Engineering and Municipal Economy). At the same time, he is Deputy President of the Section of Transportation of the Moskovskoye gorodskoye otdeleniye Vsesoyuznogo obshchestva po rasprostraneniyu politicheskikh i nauchnykh znaniy (Moscow Municipal Department of the All-Union Society for the Propagation of Political and Scientific Education), as well as a member of the Commission for the Reorganization of Municipal Trans-

Card 2/3

V. G. Sosyants

SOV/105-59-5-25/29

portation at the Mosgorispolkom, of the Tekhnicheskiy sovet Ministerstva kommunal'nogo khozyaystva RSFSR (Technical Council of the Ministry of Municipal Economy of the RSFSR), of the Uchenyy sovet Akademii kommunal'nogo khozyaystva (Scientific Council of the Academy of Municipal Economy) and of the Tekhnicheskiy sovet Mosgorispolkom (Technical Council of the Mosgorispolkom). He bears the Badge of Honor and various medals. There is 1 figure.

Card 3/3

BASURMANOV, K.A.

New trolley buses, buses, and streetcars for the capital. Gor.khoz.
Mosk. 33 no.2:26 F '59. (MIRA 12:3)

1. Glavnyy inzh. Upravleniya passazhirskogo transporta Mosgori-
spolkoma.

(Moscow--Local transit)

BASURMANOV, K.

Saving electric power in the municipal transportation system of
Moscow. Zhil.-kon. khoz. 10 no.5:13-14 '60. (MIRA 13:10)

1. Glavnyy inzhener Upravleniya passazhirskogo transporta Mosgoris-
polkoma, Moskva.
(Electric power) (Moscow—Street railways)

BASURMANOV, K.A.

Concord of scientists, engineers, and workers in the struggle
for technical progress in the municipal economy. Gor.khoz.

Mosk. 34 no.1:23-24 Ja '60.

(MIRA 13:5)

(Moscow--Municipal services)

Заслуженный инженер, К.

Ways of economizing on nonferrous metals in the municipal electric transportation system. Zhil.-kom. khoz. ll no. 1:16-17 '61.
(MIA 14:2)

1. Главный инженер Управления пассажирского транспорта
Москвы.

(Nonferrous metals) (Moscow--Street railways)

BASURMANOVA, L. (Moskva); KABAYEVA, N. (Moskva)

Observations of lunar occultation of α Tauri. Astron. tsir.
no. 222:27-28 My '61. (MIRA 15:4)

1. Gosudarstvennyy astronomicheskii institut im. Shternberga, Moskva.
(Occultations)

BASURMANOVA, L.P.

Expedition to Simferopol' for meteor observations in August 1959.
Astron.tsir. no.210:28-29 Ap '60. (MIRA 13:9)

1. Meteornyy otдел Moskovskogo otdeleniya Vsesoyuznogo astronomo-
geodexicheskogo obshchestva.
(Meteors--August)

SHMANOVA, L.P.

Observations of δ -Aquarids in 1960. Astron. tsir. no. 215:28-29
0 '60. (MIRA 14:3)

1. Gosudarstvennyy astronomicheskiy institut im. P.K. Shternberga,
Moskva.

(Materos—July)

BASURMANOVA, L.P.

Determining temperature coefficient and the distances between horizontal lines on the glass plate of the ocular micrometer of the Moscow zenith telescope. Soob, GAISH no.134:37-39 '64.
(MIRA 17:8)

BASURMANOVA, L.P.

Observations of Perseids in 1961. Astron. tsir. no.228:26-28
Ap '62. (MIRA 16:6)

1. Meteornyy otdel Moskovskogo otdeleniya Vsesoyuznogo
astronomo-geodesicheskogo obshchestva.
(Meteors--August)

BASURLANOVA. O.K., Cand Bio Sci --(diss) "Entomofauna of maple trees in
the steppe ^{regions} ~~regions~~ and the ecology of the most important varieties."

Mos, Publishing House of the Acad Sci USSR, 1958 18 pp (Acad Sci USSR,
Institute of Forest^s) 120 copies (KL, 24-58, 117)

USSR/General and Systematic Zoology. Insects. Harmful
Insects and Acarids. Forest Pests.

P

Abs Jour : Ref Zhur - Biol., No 3, 1959, No 11687

Author : Basurmanova O.K.

Inst : ~~Forest Institute AS SSSR.~~

Title : Certain Regularities of the Distribution of
Agrilus basurmanovae Stop. in Dorkul' Field-
Protecting Belts.

Orig Pub : Soobshch. In-ta lesa. AN SSSR, 1958, vyp. 10, 76-82.

Abstract : The sinuate borer A. basurmanovae in the Dorkul'
field-protecting belts damage en masse the Nor-
way, field and Tatar maples. It populates slightly
weakened trees, particularly those, well illumin-
ated and warmed up; the percentage of trees in-
fested by the borer in the southern woods is al-
ways higher than in the northern woods. The woods

Card : 1/3

USSR/General and Systematic Zoology. Insects. Harmful
Insects and Acarids. Forest Pests.

P

Abs Jour : Ref Zhur - Biol., No 3, 1959, No 11687

troos were applied effectively. -- V.I. Grimal'-
skiy.

Card : 3/3

BASURMANOVA, O.K.

Biological forms of the buprestid beetle *Agrilus viridis*.
Zool. zhur. 37 no.7:1039-1044 J1 '58. (MIRA 11:8)

1. Institut Lessa Akademii nauk SSSR, Moskva.
(Borers (Insects))

BASURMANOVA, O.K.

Some properties of the fine structure of the conducting
elements in the head ganglion of insects. Biofizika 8 no. 1:
132-134 '63. (MIRA 1748)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.

L 15322-65 Pa-4/Pb-4 AFWL/SSD/AS(mp)-2/AMD/AFTC(b)
ACCESSION NR: AP4042480 S/0217/64/009/004/0508/0515

AUTHOR: Gamburtseva, A. G.; Glagoleva, V. V.; Basurmanova, O. K. *B*

TITLE: Mitochondrion ultrastructure changes of various tissues under the influence of certain effects

SOURCE: Biofizika, v. 9, no. 4, 1964, 508-515

TOPIC TAGS: cell cytoplasm, mitochondrion, ultrastructure change, rat, white mouse, cricket, functional shift effect, ether, fatigue, flashing light, electron microscope

ABSTRACT: To determine whether the ultrastructure of mitochondria is affected by body functional changes, fatty tissues of young rats under ether, sartorius muscles of fatigued white mice, and eye ganglia of crickets with a light flashing on the retina were investigated and preliminary results are reported. Tissues were fixed in a 1% OsO₄ solution in a veronal-acetate buffer (pH 7.4) at a temperature of approximately 0°C, and the fixing time varied from 1.5 to 4 hrs depending on tissue type. The dehydrated tissues were then covered with a methyl- and butyl-methacrylate mixture (1:4) and polymerized in a thermostat at 45°C. Ultrathin sections were cut with a LKV
Card 1/2

L 15322-65
ACCESSION NR: AP4042480

ultratome, stained, and examined with a UEM-100 electron microscope. Three types of mitochondrion ultrastructure changes were found: formation of large vacuoles markedly separated from the rest of the mitochondria, formation of membrane agglomerates, and formation of osmiophil granules. All of these changes were the result of reversible vital functional shifts produced by external factors. Whether all three types of mitochondrion ultrastructure change are different stages of the same process or are specific for each case is difficult to determine at this time. The investigation data confirm literature studies which indicate that mitochondria are the first to react to various chemical, physical, and functional influences by changing their organizational structure. Orig. art. has: 9 figures.

ASSOCIATION: Institut biologicheskoy fiziki AN SSSR, Moscow
(Biological Physics Institute, AN SSSR)

SUBMITTED: 04Apr64

ENCL: 00

SUB CODE: IS

NR REF SOV: 001

OTHER: 010

Card 2/2

GAMBURTSEVA, A.G.; GLAGOLEVA, V.V.; BASURMANOVA, O.K.

Changes in the ultrastructure of mitochondria from various
tissues under the influence of some agents. Biofizika 9
no.4:508-514 '64. (MIRA 18:3)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.

EL'PINER, I.Ye.; FAYKIN, I.M.; BASURMANOVA, O.K.

Intracellular microcurrents caused by ultrasonic waves. Biofizika
10 no.5:805-812 '65.

(MIRA 18:10)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.

L 41645-66 EWT(1) SCTB DD

ACC NR: AP6031117

SOURCE CODE: UR/0217/66/011/002/0263/0266

AUTHOR: Basurmanova, O. K.

ORG: Institute of Biological Physics, AN SSSR, Moscow (Institut biologicheskoy fiziki AN SSSR)

TITLE: Ultrastructural changes in the synaptic region of the first visual ganglion of insects in various functional states

SOURCE: Biofizika, v. 11, no. 2, 1966, 263-266

TOPIC TAGS: entomology, vision, eye, neuron, neurology, microscope, microtome, light biologic effect/²⁴UKV¹⁰ microtome, UEM-100 microscope, UEM-V microscope

ABSTRACT: The article presents data on ultrastructural changes found in the synaptic region of the first visual ganglion of insects when the retina was subjected to various influences. The object of investigation was the house fly *Musca domestica*. The retina, together with the first and second visual ganglia in various functional states, was fixed with a buffered solution of 1% osmium tetroxide. The fixed and dehydrated tissue was covered with a mixture of methyl and butyl methacrylate 1:4. Sections were prepared on a UKV microtome and examined in UEM-100 and UEM-V microscopes.

1. Dark adaptation: Synaptic vesicles in the axons of the retinal

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UDC: 577.37

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L 41645-66
ACC NR: AP6031117

cells disappear. Mitochondria lose their outer membrane and "dissolve" in the axoplasm. In the glial cells a small number of free ribosomes are present, and mitochondria have a normal structure.

2. Stimulation of dark-adapted retina with intermittent light: Synaptic vesicles appear in the axons of the retinal cells. The outer membrane of the mitochondria is partially restored. In some axons of the retinal cells the axoplasm thickens and membrane accumulations appear.

3. Stimulation with intermittent light of retina pre-exposed to natural conditions: a significant quantity of granular endoplasmic reticulum and free ribosomes appears in glial cells. In some axons of the retinal cells cristae break down within the mitochondria and vacuoles form.

4. Rest after stimulation of dark-adapted retina with intermittent light: in the axons of the retinal cells among partially restored mitochondria there appear formations of different kinds, including small vesicles, separate membranes, and rather large formations clothed in a double membrane with vesicles and membranes inside and resembling mitochondria in external appearance and size.

Orig. art. has: 6 figures. [JPRS: 36,932]

SUB CODE: 06,20 / SUBM DATE: 25Mar65 / ORIG REF: 003 / OTH REF: 006

Card 2/2

hs

BASUS, V.

Insufficient safety installations in a paper mill caused death. p. 184.

Vol. 10, no. 9, Sept. 1955
PAPIR A CELULOZA
Praha, Czechoslovakia

Source: East European Accession List. Library of Congress
Vol. 5, No. 8, August 1956

BASUS, V.

Heat transfer by convection from electric radiators with trough-type reflectors. p. 11.

Ceskoslovenska vedecka technicka spolecnost pro zdravotni techniku a vzduchotechniku. SBORNIK. Praha, Czechoslovakia. No. 3, 1958.

Monthly list of East European Accessions (EEAI) LC, Vol. 8, No. 10,
Oct. 1959.
Uncl.

CZECHOSLOVAKIA

BASUS, Vladimir, Engr, and KOCOVA, Vera, Institute for Machinery Research (ustav pro vyzkum stroju), Czechoslovak Academy of Sciences.

"Mutual Effect of Free Air Flows"

Prague, Zdravotni Technika a Vzduchotechnika, Vol 6, No 4, 1963, pp 150-157.

Abstract [Authors' German summary]: A theoretical solution of the mutual effect of parallel isothermic free air currents and the derivation of relations to determine the speed of a mixed air current at an arbitrary place. The theoretical solution is verified by experiments using ten different mixings of currents flowing from two to eighteen outlets. Nomographs are attached for practical use. Twelve references, including 6 Czech and 3 Czech.

BASUS, V.

Heating in industrial plants. Cesk. hyg. 8 no.8:491-505 S '63.

1. Ustav hygieny prace a chorob z povolani, Praha.
(HEATING) (INDUSTRIAL MEDICINE)

BASIN, V. I. in.

Microclimate of stables. Zdravot' tech: 7 no. 3:132 '64.

Relative air humidity and temperature in residential houses
and offices. Ibid. 137-138

BASUS, Vladimir, inz.

Remarks on heat radiation terminology. Zdravot tech 7 no.4:172-176
'64

1. Institute of Industrial Hygiene and Occupational Diseases, Prague.

LABOUTKA, K., ins.; BASUS, V., ins.

Conference of the alumni of the Faculty of Mechanical Engineering
of the Czech Higher School of Technology. Zdravot tech 7 no.6:271-
274 '64.

1. Czech Higher School of Technology, Prague (for Laboutka). 2.
Institute of Industrial Hygiene and Occupational Diseases, Prague
(for Basus).

BASUS, Zdenek

Present technical standard of table porcelain production and prospects of further development. Sklar a keramik 15 no.3: 68-69 Mr '65.

1. Research Worksite of the Karlovarsky porcelan National Enterprise, Bresova.

BASUYEV, G.K.

Siberian pinery in Nizhnyaya Salda, Okhr.prir.na Urale no.3:143-
149 '62. (MIRA 16:6)

(Nizhnyaya Salda--Pine)

OL'KHOVSKIY, I.A.; GOLOV, V.K.; BAS'YAS, I.P., redaktor; KHEL'NIK, V.P.,
redaktor izdatel'stva; KOVALENKO, B.I., tekhnicheskii redaktor.

[Advanced experience in producing cast steel products; experience
of the Novo-Tagil refractory plant] Peredovoi opyt proizvodstva
staleraslivochnykh izdelii; opyt novatorov M.-Tabil'skogo ognepor-
nogo zavoda. Sverdlovsk, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi
i tsvetnoi metallurgii, 1954. 59 p. (MLRA 7:11)
(Powder metallurgy)

Basyas, I.P.

USSR.

2332. Elimination of lamination in stopper-rod covers by de-airing the mix.—I. P. BAS'YAS and M. P. PU'DENVASSA (*Ogneupory*, 20, 93, 1955). The de-airing of various Russian raw clays improved the plasticity, and lamination in rod-covers was decreased. The rod-covers contained 34-7% $Al_2O_3 + TiO_2$, and had a P.C.E. of 1,710° C.; the porosity was 25-4% (6 tables.)

BAS'YAS, I.P.

Causes of mold cracks in firebrick side openings for pouring
steel castings. Ogneupory 20 no.6:281-282 '55. (MLRA 9:1)

1. Ural'skiye otdeleniye Leningradskego instituta ogneporev.
(Foundry machinery and supplies)

VASIL'EVSKIY, Porfiriy Anisimovich, kandidat tekhnicheskoy nauk; BAS'YAS,
I.P., redaktor; KHEL'NIK, V.P., redaktor izdatel'stva; KOVALENKO, N.I.,
tekhnicheskoy redaktor

[Technology and equipment for the production of refractory
materials] Tekhnologiya i oborudovanie shamotnogo proizvodstva;
uchebnik dlya shkol masterov. Sverdlovsk, Gos. nauchno-tekhn. izd-vo
lit-ry po chernoy i tsvetnoy metallurgii, Sverdlovskoe otd-nie,
1956. 387 p. (MLRA 9:7)
(Refractory materials)

BAS'YAS, I P

The study of diffusion processes in refractonics by authors.
diography? I. P. Bas'yan. Zashchita Lab 22, 1437-41
1960. — The importance of diffusional processes in refrac-
torics is obvious because diffusion affects the life of living in
metallurgical processes and may not be understood without
the data.

14, 12, 1960

Ural'skoye otdeleye khesyuznyy
puzhetskoy i nauchno-issledovatel'skoy
institute synergoz.

BAS'YAS, I. P.

Name: BAS'YAS, I. P.

Dissertation: The conditions of service and processes of decomposition of magnesite-chromite and forsterite articles in the masonry of open-hearth furnaces (under the conditions of NIMZ)

Degree: Cand Tech Sci

Defended at
Publication

~~Academic~~ Min Higher Education, Ural Polytechnic Inst imeni S. M. Kirov

Defense Date, Place: 1956, Sverdlovsk

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PASIVAS, I. P.

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APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000203920005-0"

~~SECRET~~
BAS'YAS, I.P.; DVORKIND, M.M.; SARKISOV, I.O.; POSTNIKOV, P.F.

Efficient choice of refractories for laying a copper smelting
reverberatory furnace. Ogneupory 22 no.7:301-306 '57. (MLRA 10:8)

1. Ural'skoye otdeleniye instituta ogneuporov (for Bas'yas and
Dvorkind). 2. Krasnoural'skiy medeplavil'nyy zavod (for Sarkisov
and Postnikov).

(Smelting furnaces) (Refractory materials)

AUTHORS:

~~Bas'yas, I.P.~~, Vyaznikova, T.A., Raychenko, T.F. 131-58-4-7/17

TITLE:

Changes Taking Place in Refractory Forsterite Products When Forming Part of the Wall Structure of a Reverberatory Copper Smelting Furnace (Izmeneniya v forsteritovykh ogneuporakh pri sluzhbe v kladke medeplavil'noy otrazhatel'noy pechi)

PERIODICAL:

Ogneupory, 1958, . . . Nr 4, pp. 163-168 (USSR)

ABSTRACT:

Tests with Forsterite products in a copper smelting furnace were carried out in the USSR for the first time. They were bricked up in the vaults of the charge openings of the furnace and operated at temperatures of 1300-1400°. As a result of the action of temperature and smelt dust Forsterite assumed a zonal structure which is further described. The chemical composition of the worked-off Forsterite products according to zones as well as other data were published in papers by I.P. Bas'yas, M.M. Dvorkind, I.G. Sarkisov and P.F. Postnikov (Ref 1). Fig. 1 shows the structure of the unchanged part of a Forsterite brick and fig. 2 shows its dark-grey zone. Fig. 3 shows the structure of the dark-grey and "spinel-like" contact zone and fig. 4 shows the "spinel-like" zone. Fig. 5

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Changes Taking Place in Refractory Forsterite Products
When Forming Part of the Wall Structure of a Reveratory
Copper Smelting Furnace

131-58-4-7/17

shows a Forsterite brick from the vault of a copper smelting furnace after being moistened in water and dried at 110° . As may be seen, it is considerably swollen. The influence exercised by gaseous SO_2 on Forsterite-magnesite- and magnesite-chromite products may be seen in table 1. Fig. 6 shows the thermogram of a crushed Forsterite brick which was heated in an SO_2 current. Table 2 gives the results obtained when determining SO_3 -, Mg-, and Fe-quantities. Conclusions: 1.) Reagents of the smelting space in interaction with Forsterite bricks form a "spinel-like" zone. 2.) In the middle of the remaining length of Forsterite products, in the $700-900^{\circ}$ zone, $MgSO_4$ with an absorption of $\sim 10\%$ SO_2 is formed. 3.) In consideration of the fact that $MgSO_4$ is inclined to hydrate, it is necessary to provide for a sure protection against the action of water on the Forsterite brick lining. There are 6 figures, 2 tables, and 1 reference, 1 of which is Soviet.

ASSOCIATION:

Ural'skoye otdeleniye Leningradskogo instituta ogneuporov
(Leningrad Institute for Refractories, Ural Branch)

Card 2/2

MAMYKIN, Petr Sergeyevich; STRELOV, Konstantin Konstantinovich;
BAS'YAS, I.P. red.; TSYMBALIST, N.N., red.isd-va; ZEF,
Ye.M., tekhn.red.

[Technology of refractories] Tekhnologiya ogneporov.
Sverdlovsk, Gos.nauchno-tekhn.isd-vo lit-ry po chernoi i
tsvetnoi metallurgii, Sverdlovskoe otd-nie, 1959. 446 p.
(Refractory materials) (MIRA 12:10)

25(5)

AUTHORS:

Bas'yas, I. P., Danilovich, Yu. A., Lepesa, A. N.

SOV/32-25-9-17/53

TITLE:

Application of Radioactive Isotopes in the Investigation of the Performance of the Bottom Surface of Martin Furnaces

PERIODICAL:

Zavodskaya laboratoriya, 1959, Vol 25, Nr 9, pp 1076-1077 (USSR)

ABSTRACT:

Investigating the reaction between the bottom surface (B) of Martin furnaces and the charge (C) with the liquid steel (S) containing iron oxides (IO) is particularly complicated. Diffusion of (IO) into (B) can, however, greatly influence the durability of (B). For the investigation of the displacement of (IO) from (C) or (S) into (B) in the case under review radio-active Fe^{59} was used being poured onto the ore in the form of a suspension of hydroxide. The active ore is put onto (B) simultaneously with the first (C) in the 185 ton Martin furnace. After (C) has melted down, samples of the slag, the metal and the (B) are taken by means of a special steel tube. The activity of the samples was investigated with a B-2 unit and AS counter. It was established that most of Fe^{59} passed into the smelting and only a small part of the radioactive iron passed from the

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Application of Radioactive Isotopes in the SOV/32-25-9-17/53
Investigation of the Performance of the Bottom Surface of Martin Furnaces

ore into (B). An even smaller migration from the smelting into (B) was observed. The observations made lead to the assumption that the iron of (IO) reacts most with the periclase of (B). For this reason the migration from the ore is larger than that from the smelting as there is considerably less oxygen present in the latter. Thus an increase in the oxygen content of the smelting results in greater wear on (B). There is 1 figure.

ASSOCIATION: Ural'skoye otdeleniye Instituta ogneporov i Chelyabinskiy metallurgicheskiy zavod (Ural Department of the Institute for Refractory Materials and Chelyabinsk Metallurgical Works)

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S/133/60/000/012/003/015
A054/A027

AUTHORS: Bas'yas, I.P., Vyaznikova, T.A., Koksharov, V.D., Dikshteyn, Ye. I., Selivanov, I.A., Makaryohev, A.R., and Nazarov, K.S.

TITLE: Optimum Working Conditions for Basic Roofs of Open-Hearth Furnaces

PERIODICAL: Stal', 1960, ²⁰No. 12, pp. 1086-1092

TEXT: In order to investigate the factors influencing the useful life of magnesite-chromite bricks used for open-hearth furnace roofs tests were carried out in the Magnitogorsk Metallurgical Combine (1957-1959) with furnaces fired a) with masut only, ("masut type furnace"); b) with blast-furnace coke and an addition of 30 kg/hour of tar ("gas-type" furnace); c) with blast-furnace coke and an addition of 500-700 kg/hour of coal tar, ("mixed-type" furnace). The tests served to determine the temperature of the magnesite-chromite bricks at various distances from the working surface of the roof, the composition of the atmosphere under the roof, the quantity and composition of dust and the rate of the decomposition in bricks. For these purposes the following devices were employed: ФЭП (FEP) type photoelectric pyrometer, platinum-rhodium and platinum thermocouples, mounted in a 75 x 75 x Card 1/8

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S/133/60/000/012/003/015
A054/A027

Optimum Working Conditions for Basic Roofs of Open-Hearth Furnaces

460 mm magnesite-chromite rod, the hot junctions of the thermocouples being at 0, 10, 15 and 30 mm distance from the working surface. Where the hot junction was placed immediately on the surface, it was protected by a silicium-rich cap, with a wall 0.8 mm thick; a single-point potentiometer with a disc scale rotating at 0.5 rph; for gas analysis ГХН (GKhP-3) type and for random tests BTM-2 (VTI-2) type analyzers were used. The melting dust under the roof was collected by a water cooled detachable brass tube connected in series with water filters, gasometers and ejectors. For introducing the apparatus in the under-roof area 7 openings, (80 x 80 mm) were made in the roof. In the tests the relationship between the character of temperature change of the working roof surface and the duration of break in firing, the opening of the charging doors, the time during which cold materials are in the furnace, the duration of various processes and repairs were investigated for all three types of furnaces. It was found that the useful life of the roof in the first place depended on the kind of fuel used, on the place where fuel was fed in the furnace and on thermal loads. The shortest useful life was observed for masut-fired furnaces, working under unfavorable atmospheric conditions: CO was frequently, carbohydrates were occasionally found in the roof zone. Even when

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S/133/60/000/012/003/015
A054/A027

Optimum Working Conditions for Basic Roofs of Open-Hearth Furnaces

part of the gas fuel was replaced by a liquid (max. 500-700 kg/hour) the useful life of the roof was shortened, mainly when charging masut or tar through tuyères mounted at the external sides of the fuel tanks. Hydrocarbons are harmful because the ceramic surface of the bricks acts as a catalyst and promotes their decomposition during heating and thereby also the activation of oxidation-reduction processes which deteriorate the iron-rich zones of the refractory bricks. When firing with partly liquid or all-liquid fuel the temperature conditions are also adversely affected because the velocity of temperature changes on the working surface increases during reversing (up to 300°C/min), the temperature drop can attain 200°C and more in this interval; the cooling time of the roof increases during charging while the temperature can decrease to 1,300°C and lower. When cooling below 1,500-1,450°C, the refractory bricks deteriorate considerably under the effect of temperature change, because the working zones of refractory material pass from a semi-plastic heat-resistant condition into a brittle, non-heat-resistant state. As, however, in some cases cooling even below 1,000°C (for instance, during repair) does not increase deterioration of the bricks, it can be assumed that actually not cooling itself, but its accompanying phenomena, such as speed

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Optimum Working Conditions for Basic Roofs of Open-Hearth Furnaces

and frequency of heat changes during the non-heat-resistant period of the working zones in refractory bricks are the causes of their decomposition. The best of operation conditions of the roof is, when it is not cooled below 1,500°C. However, with the present methods of charging high-capacity furnaces this can be obtained only by extending the charging time or by intensifying the combustion of fuel. When having to cool the roof under 1,450-1,500°C during charging, the number of reversals should preferably be reduced by intensifying combustion as much as possible, and by increasing the intervals between reversings. As the changes in the composition of atmosphere under the roof, recurring for 7-9 minutes, also add to the decomposition of the refractory bricks, care should be taken to prevent any reducing medium from entering this area, not even for a short time. Refractory bricks deteriorate more quickly in the first phase of the furnace campaign than in the subsequent phase. This shows that decomposition takes place quickly when there are refractory bricks with a high content of iron oxides in the working area. There are 6 figures, 8 tables and 3 Soviet references.

ASSOCIATION: Vostochnyy inatitut ogneporov (Eastern Institute of Refractory Material), Magnitogorskiy metallurgicheskiy kombinat (Magnitogorsk Metallurgical Combine)

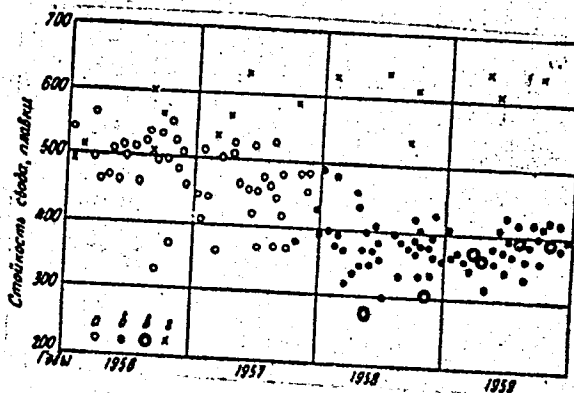
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S/133/60/000/012/003/015
A054/A027

Optimum Working Conditions for Basic Roofs of Open-Hearth Furnaces

Fig. 1. Dependence of the useful life of open-hearth furnace roof refractory material on the kind of fuel employed.
a- feeding tar or masut in the front of bunker; b-idem, laterally; c-firing with masut only; d-firing with gas only.

Vertical legend: useful life of roof, meltings
Horizontal legend: years.



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Optimum Working Conditions for Basic Roofs of Open-Hearth Furnaces

Table 5

Composition of gas in the under-roof area %

Time elapsing from switching on fuel supply sec	CO ₂	O ₂	CO	H ₂	CH ₄	C _n H _m
Period of preheating (masut furnace)						
8	6,0	6,7	9,5	6,5	1,3	0,3
Period of heat finishing (masut furnace)						
10	8,9	5,6	9,1	2,3	0,2	0,9
20	9,8	5,4	10,4	2,9	0,2	0,0
Period of heat finishing (gas furnace)						
0	5,3	5,4	2,3	0,0	0,0	0,0
5	10,3	2,1	0,0	0,0	0,0	0,0
10	8,0	1,7	3,1	0,0	0,0	0,0
15	8,7	0,4	0,2	0,0	0,0	0,0
-10*	7,6	6,8	7,5	1,3	0,0	0,0

* 10 sec before switching off coke-gas supply

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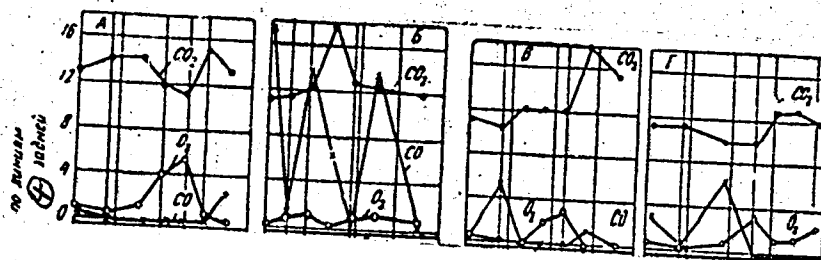
Optimum Working Conditions for Basic Roofs of Open-Hearth Furnaces

Legend to Fig. 4: Composition of the atmosphere of the under-roof area in a gas furnace at the reversal of fuel (III. opening, vertex of roof)

A-charging; B-pouring of iron; C-melting; D-heat finishing; (a-switching off gas supply; b-switching on gas supply)

Vertical legend: ① Content of CO_2 , O_2 , CO , %, in the gases, according to the frontal, middle and rear line

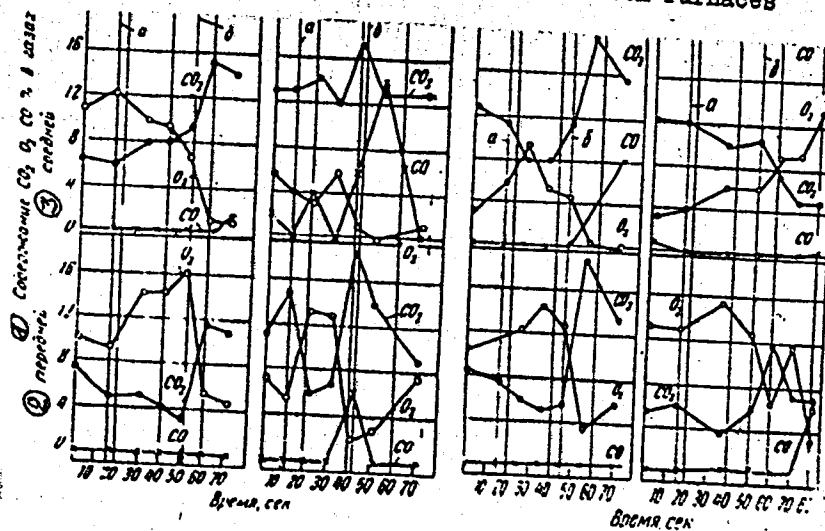
Horizontal legend: Time, sec., time, sec.



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Optimum Working Conditions for Basic Roofs of Open-Hearth furnaces

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RAS'YAS, I.P.; LEFESA, A.N.

Mineralogical composition of magnesite-dolomite-cinder and magnesite-dolomite-furnace slag calcinated mixes. Ogneupory 25 no.10:478-483 '60. (MIRA 13:10)

1. Vostochnyy institut ogneuporov.
(Refractory materials)

BAS'YAS, Igor' Pavlovich; CHERNOGOLOV, Aleksey Ivanovich; MAMYKIN, P.S.,
prof., retsenzent; LEVCHENKO, P.V., red.; SKOROBOGACHEVA, A.P.,
red. izd-va; CHAPAYKINA, F.K., red. izd-va; TURKINA, Ye.D.,
tekh. red.

[Open-hearth furnace regenerators] Regeneratory martenovskikh pechei.
Sverdlovsk, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi
metallurgii Sverdlovskoe otd-nie, 1961. 174 p. (MIRA 14:7)
(Open-hearth furnaces—Equipment and supplies)
(Heat regenerators)

ZBOROVSKIY, A.A.; ROGOVOY, A.G.; BAS'YAS, I.P.

Exchange of oxides of iron and calcium in magnesite-chrome articles when heated. Ogneupory 26 no.9:414-417 '61. (MIRA 14:9)

1. Magnitogorskiy metallurgicheskiy kombinat (for Zborovskiy, Rogovoy).
2. Vostochnyy institut ogneuporov (for Bas'yas).
(Refractory materials)

S/032/61/027/002/019/026
B134/B206

AUTHORS: Bas'yas, I. P., Paramonova, A. P.

TITLE: Furnace for the observation of melting of microobjects under a microscope.

PERIODICAL: Zavodskaya laboratoriya, v. 27, no. 2, 1961, 213-214.

TEXT: A vertical tubular furnace for the microscopic study of melting processes at 50-fold magnification is described. A corundum tube (2) with platinum heating element (3) is placed at the center of a steel jacket (1) (Fig.). A temperature of up to 1600°C can be obtained, and of up to 1700°C if a platinum-rhodium heating element is used. The contacts of the heating element are led to the terminals (4) which are placed on an asbestos block (5). The furnace is heat-insulated (6) and fed by an ЛАТР-1 (ЛАТР-1) transformer. The contact of the thermocouple (7) is placed immediately below the sample holder (8) which is made of platinum-rhodium wire and is suspended from a support (11) by means of an arm (10). The slot (12) permits vertical displacement of the support (11).

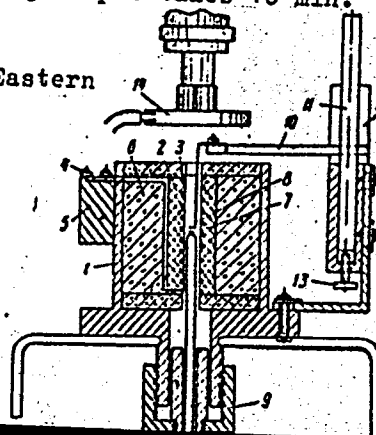
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Furnace for the observation of melting...

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B134/B206

by means of the screw (13). Moreover, the holder can be taken out within a few seconds, and the sample can be quickly cooled in water. The microscope is mounted above the furnace (minimum focal distance 30 mm), and a cooler (14) is fitted. Light filters are inserted for observations above 1200°C. The accuracy of temperature determination is $\pm 5-10^{\circ}\text{C}$. The determination of the fusing temperature of a slag sample takes 10 min. There is 1 figure.

ASSOCIATION: Vostochnyy institut ogneporov (Eastern Institute of Refractory Materials)



Card 2/2

STRELOV, K.K.; MAMYKIN, P.S.; Primalni uchastiye: BAS'YAS, I.P.;
BICHURINA, A.A.; BRON, V.A.; VECHER, N.A.; VOROB'YEVA, K.V.;
D'YACHKOVA, Z.S.; D'YACHKOV, P.N.; DVORKIND, M.M.;
IGNATOVA, T.S.; KAYBICHEVA, M.N.; KELAREV, N.V.;
KOSOLAPOV, Ye.F.; MAR'YEVICH, N.I.; MIKHAYLOV, Yu.F.;
SEMKINA, N.V.; STARTSEV, D.A.; STREYSHCHIKOV, Yu.Ye.;
TARNOVSKIY, G.I.; FLYAGIN, V.G.; FREYDENBERG, A.S.;
KHOROSHAVIN, L.B.; CHUBUKOV, M.F.; SHVARTSMAN, I.Sh.;
SHCHETNIKOVA, I.L.

Institutes and enterprises. Ogneupory 27 no.11:499-501
'62. (MIRA 15:11)

1. Vostochnyy institut ogneuporov (for Strellov).
2. Ural'skiy politekhnicheskiy institut im. S.M. Kirova (for Mamykin).
(Refractory materials—Research)

KOSOLAPOV, Ye. F.; BAS'YAS, I. P.

Repairing hearth bottoms in open-hearth furnaces. Trudy Vost.
inst. ogneup. no.2:59-82 '60. (MIRA 16:1)

(Open-hearth furnaces—Maintenance and repair)
(Refractory materials)

CHERNOGOLOV, A. I.; BAS'YAS, I. P.

Dust characteristics from smelting in a large capacity open-
hearth furnace. Trudy Vost. inst. ogneup. no.2:118-126 '60.
(MIRA 16:1)

(Open-hearth furnaces) (Fly ash)

VECHER, Nikolay Aleksandrovich; IVANOV, N.I., retsenzent; KULAKOV,
A.M., retsenzent; LEPINSKIKH, B.M., red.; BAS'YAS, I.P.,
red.; MIKHAYLIKOV, S.V., red.; TEIEGIN, A.S., red.;
BUR'KOV, M.M., red.isd-va; ISLENT'YEVA, P.G., tekhn. red.

[Highly efficient open-hearth furnace performance] Vysoko-
proizvoditel'naya rabota martenovskikh pechei. Moskva,
Metallurgizdat 1963. 270 p. (MIRA 16:8)
(Open-hearth furnaces)

BAS'YAS, I.P.; KOKSHAROV, V.D.; VYAZNIKOVA, T.A.

Rapidity of deposition zone formation in magnesite-chromite crowns
of open-hearth furnaces. Ogneupory 26 no.11:519-524 '61.
(MIRA 17:2)

1. Vostochnyy institut ogneuporov.

BAS'YAS, I.P.; VYAZNIKOVA, T.A.; KOKSHAROV, V.D.

Service of magnesite-chromite refractories in an open-hearth
furnace roof. Ogneupory 29 no.3:132-136 '64 (MIRA 17:3)

1. Vostochnyy institut ogneuporow.

BAS'YAS, I.P.; BELOZEROV, M.M.

Causes of the formation of metal incrustations on magnesite
steel pouring nossles and ways to prevent it. Stal' 23 no. 3:
222-224 Mr '64. (MIRA 17:5)

1. Vostochnyy institut ogneuporov.

BELOZEROV, M.M.; ~~BASIVAS~~, I.P.

Preventing the formation of crusts during the top pouring
of steel. Metallurg. 9 no.10:23-24 0 '64 (MIRA 18:1)

1. Vostochnyy institut ogneporov.

SEMENENKO, P.P.; BARYSHNIKOV, G.I.; FILATOV, V.P.; BAS'YAS, I.P.; FREYDENBERG,
A.S.; GUDOV, V.I.; TARNOVSKIY, G.A.

Ramming the upper working layer of open-hearth furnace hearths. Metallurg
10 no.4:14 Ap '65. (MIRA 18:7)

BASYKIN, Viktor Vasil'yevich; LUTSKIY, Valeriy Konstantikovich; KHEKSHINA, L..
redaktor; YAKOVLEV, Ye., tekhnicheskiy redaktor

[The Moscow planetarium] Moskovskii planetarii. Izd. 2-oe, dop.
[Moskva] Moskovskii rabochii, 1956. 238 p. (MLRA 9:8)
(Moscow--Planetaria)

BASTROV, L.M.

Communications and signaling from hoisting equipment. Nauch. trudy
Perm NIUI no.3:170-203 '63. (MIRA 17:3)

S/152/61/000/003/001/003
B129/B201

AUTHORS: Basyrova, Z. B., Klimenok, B. V.
TITLE: Structure of the complex forming on the interaction of Diesel fuel with an aqueous carbamide solution
PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Neft' i gaz, no. 3 1961, 61-66

TEXT: Carbamide forms crystal complexes with unramified aliphatic compounds. This property of carbamide is of use for the separation of various mixtures of unramified aliphatic compounds from ramified aliphatic and cyclic ones. Great importance is attached to the utilization of carbamide complexes for the extraction of normal paraffins for the purpose of reducing the solidification temperature of petroleum products (Diesel- and jet fuels, oils), and utilization of extracted paraffins for the production of acids, alcohols, and other valuable products. Some variants have now been worked out for the process of deparaffination of Diesel fuel and oils by means of carbamide. Polar organic substances (alcohols, ketones) are used in most procedures as carbamide solvents and as catalysts. Deparaffination by means

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Structure of ...

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of carbamide is usually performed by mixing the deparaffinizing fraction with a carbamide solution. A product is formed as the result of their mutual effect, called crude complex. This is a complex microheterogeneous system, consisting of liquid (deparaffined product and carbamide solution) and solid (complex and carbamide) phases. The structure of the crude complex is dependent upon the nature of the solvent, the ratio of carbamide solution to petroleum product solution, upon temperature, and other conditions. The structure of the complex formed by the mutual effect of Diesel fuel and an aqueous carbamide solution is also discussed. Two structures are considered: a plastic one, with a considerable water content in the crude complex, and a granular one, with a slight water content. The complex of the plastic structure may have different degrees of consistency thick, pasty to mobile creamy. The complex of the granular structure consists of individual spherical particles embedded in the deparaffined petroleum product. Their sizes range from millimeter fractions to those of some mm, depending on conditions. The microscopic analysis of the plastic crude complex proved it to be an emulsion of the deparaffined product in the aqueous carbamide solution, which is stabilized by the microcrystals of the complex. The separation of the deparaffined product from the crude complex

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Structure of ...

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B129/B201

of such a structure is possible only by filtration at high pressure. Other current methods of solid phase separation (decanting, centrifuging, extraction by solvent) with the given complex structure yield no satisfactory results. The granular crude complex is an emulsion - suspension of the aqueous carbamide solution and of the complex in the deparaffined product. The authors studied the conditions and causes of formation of the complexes of both structures at room temperature by intensive mixing of Diesel fuel with aqueous carbamide. The granular structure was obtained with a water content up to 18.2% in the crude complex. The deparaffined product is the dispersion medium. The plastic complex is obtained at a water content of the mixture amounting to over 20%. In the intermediate range of 18.2% to 20% of water, where both types of emulsion exist, the emulsion of water in oil prevails. For clarifying the granular and the plastic structure of the crude complex, the authors made a microscopic analysis of the wettability of the crystals of the complex (uoparaffins) by an aqueous carbamide solution and deparaffined product. In the plastic complex the deparaffined product is a disperse liquid phase. In the granular complex an aqueous carbamide solution is in dispersion, and the deparaffined product is the dispersion medium. There are 12 references: 8 Soviet-bloc.

Card 3/4

Structure of ...

S/152/61/000/003/001/003
B129/B201

ASSOCIATION: Ufimskiy neftyanoy institut (Ufa Petroleum Institute)

SUBMITTED: December 3, 1960

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5(3) 11(1) 14(1)

AUTHORS: Gittsevich, G. A., Engineer, Basyrov, Z. B., Engineer, SOV/67-59-3-3/27
Sagaydak, V. G., Engineer

TITLE: New Data on the Explodibility of Hydrocarbon Mixtures in
Liquid Oxygen (Novyye dannyye o vzryvayemosti smesey ugle-
vodorodov v zhidkom kislorode)

PERIODICAL: Kislorod, 1959, Nr 3, pp 12 - 16 (USSR)

ABSTRACT: In this paper artificially obtained light hydrocarbons which
form in the action of high pressure in the last stages of the
compressors from lubricants are investigated with respect
to their explodibility in liquid oxygen. For this purpose
cylinder oil of the type P-28 was subjected to thermal crack-
ing at 180 atmospheres excess pressure and at 200-350° in an
autoclave (Fig 1). The apparatus is described. The following
resulted from the cracking process: gaseous hydrocarbons,
carbon dioxide, liquid hydrocarbons and a mass with signs
of coking as solid residue. The formation of liquid, easily
volatile cracking products which have a characteristic smell
was observed at 145° and at a pressure of 185 ata which is
in agreement with practical experience. The explosion tests
were carried out with liquid hydrocarbons with a boiling
point at 60-100°. Engineer T. K. Zhmakov assisted in these

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New Data on the Explodibility of Hydrocarbon Mixtures SOV/67-59-3-3/27
in Liquid Oxygen

tests. The explodibility of the hydrocarbons in liquid oxygen was determined by its sensitivity to pressure impulses. The character of an explosion occurring at a correspondingly high pressure impulse was determined from the destruction of the vessel. In table 2 the impulses necessary for an explosion of the individual mixtures investigated are listed. For comparison purposes parallel investigations were carried out with nitroglycerin. These experiments were conducted by N. D. Maurina. All hydrocarbon mixtures investigated showed a higher sensitivity to pressure impulses than nitroglycerin. An accumulation of hydrocarbons in liquid oxygen beyond the explosion limit is therefore most dangerous. No acetylen was found in the cracking product (Table 1). There are 2 figures, 2 tables, and 6 references, 5 of which are Soviet.

Card 2/2

14(1)

AUTHORS:

Basyrov, Z. B., Engineer, Mikhedov, V. G., Engineer SOV/57-59-5-1/30

TITLE:

The Capability of Detonating a Mixture of Acetylene and Lubricating Oil With Liquid Oxygen

PERIODICAL:

Kislorod, 1959, Nr 5, pp 1 - 6 (USSR)

ABSTRACT:

Since atmospheric pollutions in air-separation plants cause explosions by acetylene and lubricants again and again the above mixtures were investigated. F. Pollitzer (Ref 1), S. N. Nikitin (Ref 2), and G. A. Gitsevich (Ref 3) had assumed that the lubricant and its "distillates" accumulate in the apparatus which cause an explosion in liquid oxygen medium. The liquid and light gaseous hydrocarbons form with the liquid oxygen the explosive oxyliquites. This theory, however, could not be verified. On the contrary, it was found that both the solid acetylene and lubricating oil in particular the former, proved to be highly explosive substances. For this purpose, the critical parameter of a steady detonation mixture of the components mentioned was determined (at different concentration). Further, it was found that mixtures of lubricants and stale oils with oxygen can hardly be di-

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The Capability of Detonating a Mixture of
Acetylene and Lubricating Oil With Liquid Oxygen

SOV/67-59-5-1/30

stinguished in their detonation effect. The accumulation of pollutions consisting of lubricating oils, especially in the form of fat droplets, in the separation plants proved to be dangerous on the basis of the investigations carried out. Data are given in tables and figures, the testing apparatus is shown in figure 1. T. K. Zhmakov, Engineer, and N. A. Kotikova, Laboratory Worker, participated in the tests. There are 2 figures, 2 tables, and 12 references, 7 of which are Soviet.

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5.1330

67780

14(1)

AUTHOR:

Basyrov, Z. B., Engineer

SOV/67-59-6-2/26

TITLE:

Sensitivity of a Mixture of Organic Substances and Liquid Oxygen to Pressure Impulses

PERIODICAL:

Kislodod, 1959, Nr 6, pp 13 - 23 (USSR)

ABSTRACT:

Following a series of investigations in a previous issue of the periodical, the present paper mainly deals with the problem of excitation conditions for an explosion in mixtures forming in apparatus during operation. T. K. Zhmakov, Engineer, and N. A. Kotikova, Laboratory Assistant, participated in the experiments. The impulse for excitation of an explosion may be caused by a hydraulic impact, the impact of a gas wave, or a cavitation phenomenon. Investigations of these phenomena were made by the author in collaboration with A. V. Pankratov, Candidate of Technical Sciences, and a certain investigation method was worked out. Investigations were carried out on a plant (Fig 1) where a copper reservoir and a shock tube were used (dimensions are given). The general apparatus and its mode of operation are described. Mixtures of pure hydrocarbons were investigated with special observation of the

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Sensitivity of a Mixture of Organic Substances and
Liquid Oxygen to Pressure Impulses

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influence exerted by the thickness of layer of the solid hydrocarbon and the influence of inert additions. The investigations yielded the following results: All mixtures investigated such as form during operation in plants possess a much higher sensitivity to explosion than nitroglycerin. Mixtures of carbon dioxide and acetylene, or cracking products with liquid oxygen, are equally explosive. Investigations of pure hydrocarbons with pure oxygen showed that the explosion takes place already at slight excess of the permissible concentration limit at a strongly reduced impulse. Explosion of mixtures by pressure impulses is excited by the adiabatic compression of gaseous inclusions (Bouden and Ioffe, Ref 10). This conclusion is drawn from the parallelism between sensitivity and spontaneous combustibility temperature in the gaseous phase. Accumulations of less soluble organic substances proved to be most dangerous for air-fractionating plants since in small ranges they very rapidly exceed the permissible concentration limit. Further it was proven by experiments that acetylene is not the most explosive substance but that all organic substances have the same explosion danger as soon as they accrue in

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35543

S/064/62/000/003/003/007
B110/B138

11.11.75

AUTHORS: Basyrov, Z. B., Pankratov, A. V.

TITLE: The sensitivity of ozone-oxygen solutions to pressure pulses

PERIODICAL: Khimicheskaya promyshlennost', no. 3, 1962, 22-23

TEXT: An explosion vessel was used with one tube 400 mm, and a shock tube 1,080 mm, in length (both 20 mm diam), which was divided into two unequal parts by a diaphragm. The vessel was placed in a thermostat with liquid oxygen, to keep the ozone-oxygen concentration constant. Liquid oxygen was introduced. A gaseous ozone-oxygen mixture (2-4% ozone) was produced in an ozonizer and liquefied in a coil in the thermostat. Higher ozone concentrations (>6% by volume) were obtained by evaporating liquid oxygen. The diaphragm breaks when a pressure of P_r is reached in the shock tube. The pressure P_{ref} arising when the shock wave is reflected on the bottom of the vessel after rupture of the diaphragm was checked with a lead crusher gage in liquid oxygen and an $MMA-3$ (MID-3) diaphragm-type

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The sensitivity of ozone-...

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gage in water. P_{ref} values were almost identical in liquid oxygen and water. $P_{ref} = 2.9P_r^{0.708}$. The explosive effect increases with ozone concentration, the tube being completely shattered at 69% or over. From this a graph was plotted showing the sensitivity of ozone-oxygen solutions to a pulse of P_{ref} as a function of ozone concentration. With 20% by weight ozone explosion took place at 1,422 psi, with 80% at 142 psi. Ozone-oxygen solutions are very sensitive to pulsating pressure. Oxygen dilution causes an abrupt drop in the pulsating pressure required to trigger the explosion. $P_{ref} = 173 \cdot \exp(-0.0382C)$. As with liquid oxygen hydrocarbon mixtures, there is a direct relation between pressure sensitivity and minimum temperature of spontaneous ignition. There are 3 figures. The most important English-language reference reads as follows: R. O. Miller, J. Phys. Chem., 63, no. 7, 1054 (1959).

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BASYROV, Z.B.; PANKRATOV, A.V.

Sensitivity of ozone-oxygen solutions to pressure pulse. Khim.
prom. no.3:174-175 Mr '62. (MIRA 15:4)
(Liquid oxygen) (Shock waves) (Ozone)

BASYROVA, Z.V.; KLIMENOK, B.V.

Structure of a complex formed by the interaction of diesel fuel
and carbamide aqueous solution. Izv. vys. ucheb. zav.; neft'
i gaz 4 no.3:61-66 '61. (MIRA 16:10)

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AUTHORS: Basyrova, Z.V., and Klimenok, B.V.

TITLE: Dewaxing of diesel fuel with an aqueous solution of carbamide in a pilot plant

PERIODICAL: Referativnyy zhurnal, Khimiya, no.11, 1962, 516, abstract 11 M 176. (Novosti neft. i gaz. tekhn. Neftepererabotka i neftekhimiya, no.3, 1961, 6-9).

TEXT: Dewaxing process for diesel fuels was developed using a cold suspension of carbamide in water (pulp), and was tested in a pilot plant having a throughput of 12 litres/hour. The work was carried out on two samples of diesel oil fraction of Tuymazy crude with the solidification point of -20 and 0 °C; dewaxing was effected with the pulp containing 74% weight of carbamide. Time of contact of feed with the pulp in the reactor was 3 min., specific consumption of the pulp was changing from 0.6 to 1.5 volumes for one volume of feedstock, and temperature of the complex at the exit from the reactor was changing between 30 and 38 °C. It was established that with an increase in the specific

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